

WHAT IS CLAIMED IS:

1. A Radio Frequency (RF) pulse generating device comprising  
a main delay line,  
5 a low impedance electrically driven impulse generator, and  
a quarter-wave trap between the impulse generator and the main delay line,  
the main delay line being connected to the electrically driven impulse generator at one  
end and being short-circuited at an opposite end, the output impedance of the impulse generator  
being small compared to the characteristic impedance of the main delay line, whereby the main  
10 delay line becomes an oscillatory circuit.

2. A Radio Frequency (RF) pulse generating device comprising  
a main delay line,  
a low impedance electrically driven impulse generator,  
15 an antenna, and  
a quarter-wave trap between the impulse generator and the main delay line,  
the main delay line being connected to the electrically driven impulse generator at one  
end and the antenna being connected at an opposite end of the main delay line, the output  
impedance of the impulse generator being small compared to the characteristic impedance of the  
20 main delay line, whereby the main delay line becomes an oscillatory circuit.

3. The device of claim 1 wherein the main delay line is comprised of two or more smaller delay  
lines connected in series.

4. The device of claim 1 wherein a capacitor is connected parallel to the main delay line or one  
of the smaller delay lines.

5. The device of claim 1 wherein the impulse generator is a capacitor connected in series with  
an internal delay line and a switch.

6. The device of claim 1 wherein a resistor represents the quarter-wave trap between the impulse generator and the main delay line.

7. The device of claim 2 wherein the main delay line is comprised of two or more smaller delay lines connected in series.

8. The device of claim 2 wherein a capacitor is connected parallel to the main delay line or one of the smaller delay lines.

9. The device of claim 2 wherein the impulse generator is a capacitor connected in series with an internal delay line and a switch.

10. The device of claim 2 wherein a resistor represents the quarter-wave trap between the impulse generator and the main delay line.